



January 7, 2025

Terri Fashing
Acting Watershed and Stormwater Division and DD Program Manager
City of Oakland Public Works Department
250 Frank H. Ogawa Plaza, Suite 4314
Oakland, CA 94612
TFashing@oaklandca.gov

Re: Oakland 1005274-Storm Drainage Master Plan (8792007) – Contract Amendment 2

Dear Ms. Fashing,

The purpose of Contract Amendment 2 to the Oakland Storm Drainage Master Plan contract is to request authorization for a budget increase to replenish funds for services that have already been performed and to allocate additional funds for anticipated services for the remainder of the contract term.

Out-of-Scope Tasks

The City of Oakland’s storm drainage system has deteriorated due to historical lack of resources to keep up with the necessary improvements. Many the storm drainage assets are over 80 years old and are reaching the end of their serviceable life. Consequently, emergency situations sometimes arise when infrastructure failures occur. Additionally, developments over the years have increased runoff, creating erosion in many locations, and overwhelming the capacity of many existing pipes and culverts. This, along with delayed maintenance have resulted in the need for urgent assistance to provide hydrologic/hydraulic assessments.. The City is currently short-staffed and has modified the Project 1005274 scope to request the services of Wood Rodgers to address emergency situations or provide support to assess capacity/flooding issues. Wood Rodgers provided engineering services listed in Table 1 below as requested by the City.

Table 1 – Out-of-Scope Tasks, 8792007
Table with 3 columns: Out-of-Scope Tasks, Description, Spent Cost. Rows include 10070 Empire Rd. Flooding, 1451 Mountain Blvd., 1815 Wood Haven, and 2421 Telegraph.

	3. Reviewed hydraulic model results	
6995 Simson St.	1. Reviewed maintenance service request complaints 2. Reviewed catchment boundary 3. Reviewed hydrologic and hydraulic model results	\$8,000
7005 Skyline Blvd.	1. Researched as-builts 2. Reviewed maintenance service request complaints 3. Researched ownership and easement 4. Reviewed and refined catchment boundary 5. Updated geodatabase to include private drainage facilities. 6. Refined and simulated hydrologic and hydraulic model	\$30,000
769 Santa Ray Ave- Storm Drain Rehab	1. Developed catchment area and design flow 2. Recommended pipe rehabilitation size, material and type	\$5,000
Oakland Alameda Access Project (ACTC)	1. Reviewed design plans and determined project extent 2. Reviewed hydrologic and hydraulic model results and determined deficient pipes 3. Estimated improvement extent	\$15,000
FEMA Peralta Creek Flood Risk Review	1. Provided information, data, and models to FEMA 2. Attended coordination meetings 3. Reviewed FEMA revised models and floodplains	\$25,000
Oakland Zoo Emergency Repair	1. Researched as-builts 2. Reviewed and refined catchment boundary 3. Refined and simulated hydrologic and hydraulic model 4. Developed improvement alternatives	\$15,000
7330 International Storm Line Repair	1. Researched as-builts and GIS geodatabase 2. Reviewed hydrologic and hydraulic model results 3. Verified replacement pipe size	\$5,000
High St. and 42 nd Ave. Flood	1. Researched as-builts and GIS database 2. Performed additional inspections and surveys 3. Updated Geodatabase	\$35,000
1232 High St. Pipe Improvement Review	1. Reviewed hydraulic model results 2. Determined proposed pipe capacity and size 3. Researched design standards and provided improvement recommendations	\$2,000
E. 9 th St. Flooding Investigation & CCTV Planning	1. Researched as-builts 2. Reviewed maintenance service request complaints 3. Reviewed hydraulic model results 4. Planned and requested CCTV inspections	\$5,000
	Total	\$200,000

Wood Rodgers utilized the budgets from the tasks shown in Table 2 for the out-of-scope tasks and consequently reduced the scope of those tasks. To complete the original scope of the master plan, Wood Rodgers is requesting an additional \$200,000 as shown in Table 2.

As-Needed Hydrologic and Hydraulic Services

Additionally, the Watershed and Stormwater Management Division has requested Wood Rodgers to add an as-needed task for \$150,000 to provide hydrologic and hydraulic engineering services for potential tasks similar to those in the previous section and for which the City may continue to request assistance. These services may include engineering review and analysis tasks related to storm drainage emergencies,

new developments, and improvement requests. Wood Rodgers possesses extensive knowledge of the conditions of the City's drainage facilities, the complexity of drainage networks, understanding of capacity, and intricacies of the intertwined Alameda County storm drainage facilities. We can deliver these services with minimal research, in the most cost-effective manner, and with accurate engineering design and analysis.

The fund will only be utilized when the City requests and approves additional services. A scope of work and budget for each additional service will be developed and agreed upon in writing by the City prior to Wood Rodger starting work under the as-needed task.

Extreme Precipitation

Recent flooding caused by heavy and intense rainstorms has brought climate change to the forefront of many citizens. Because of climate change, researchers expect future precipitation events to increase in both volume and frequency, putting the City's current level of service into question. The capital improvement projects recommended by Wood Rodgers in the Drainage Master Plan are based on current precipitation frequencies. Therefore, the City requested an analysis of the effect of climate change to be included. Wood Rodgers proposes to assess the effect of increased volume and frequency of design rainfall on the recommended capital improvement projects, refining both the improvements and cost estimates accordingly. Climate change criteria will be established for design storms, adjusting existing 2-, 5-, 10-, 25-, and 100-Year, 24-Hour design storms to reflect potential increases in volume and frequency.

These criteria are informed by global climate modeling results, subject to ongoing refinement as new data becomes available. Given the uncertainty of climate change projections, this analysis will focus solely on deficient facilities under current conditions, rather than identifying and improving facilities that may only become deficient under future climate change scenarios. Should the improvement projects developed for the Drainage Master Plan based on current precipitation frequencies prove inadequate, additional improvements and costs will be developed to address the effects of climate change.

Catch Basin Inlet Inventory & Analysis

Per the City's request, Wood Rodgers proposes to inventory and categorize 11,000 catch basin inlets owned by the City (excluding those belong to Caltrans and the Port of Oakland). We will identify inlets that are not bike safe, coordinate with the City's staff for field inspections and additional data collection, and recommend a rehabilitation and replacement program along with associated costs. The findings and recommendations of this task will further refine the drainage facility inventory for the Master Plan project to better define the existing conveyance capacity and to minimize clogging risk. This task will also help the City satisfy Provision C.5.f. – Municipal Separate Storm Sewer System (MS4) Map – in the City's California Regional Water Quality Control Board San Francisco Bay Regional Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP 3.0). Provision C.5.f. requires the City to add missing information to the MS4 map.

Wood Rodgers will use high resolution aerial imagery and the storm drain inlets and pipe networks in the City's GIS geodatabase to identify missing inlets, update the geodatabase with the missing inlets, georeference the existing inlets to the aerial, and determine the dimensions of the inlet grates and curb opening widths. Wood Rodgers will focus this effort within the existing storm drain networks in the geodatabase. Streets with no storm drain pipes will not be investigated. Our engineers will develop typical

inlet dimensions used in conjunction with the aerial measurements to standardize the inlet dimensions in the geodatabase.

Subsequently, Wood Rodgers will use Google Street View to determine the type of inlet grate and curb opening using a predefined list of grate types based on industry standards. Inlet grates unsafe for bicyclists' use will be identified for the City's field inspections and grate opening data collection. Wood Rodgers will coordinate with the City's inspection team to reconcile and update the collected data into the geodatabase.

Wood Rodgers will then use the updated geodatabase to develop a grate and/ or catch basin structure rehabilitation and replacement program and associated capital costs. We will consider the existing performance of the catch basin for our recommendations in the program. The rehabilitation and replacement program will be documented in a technical memorandum.

Wood Rodgers will implement a grid system to track the progress of this task and to ensure that the storm drain inlets have their dimensions populated and grate types properly categorized. Wood Rodgers will also refine the geodatabase to capture the collected inlet dimensions, sizes, and grate types to standardize the inventory process.

FEMA LOMR Applications

Wood Rodgers proposes to prepare a Flood Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) application to revise the currently effective Flood Insurance Rate Maps (FIRM). The application will be prepared and submitted through the Online LOMC system. The submissions will follow FEMA standards and guidelines, in particular the *Guidance for Flood Risk Analysis and Mapping, Data Capture -Workflow Details, November 2021*. Due to the completeness of the Zone 12 Drainage Master Plan developed and adopted by the Alameda County, its models, results, and reports will be used as the basis for the LOMC submissions. The submissions will include the following materials:

1. MT-2 Application Forms
2. A narrative which describes the purpose of the request, the methodology used to analyze the floodplain, and discusses the hydrologic analysis, hydraulic analysis, calibration, reconciliation, criteria, data sources, and results of the comprehensive model.
3. Packaged model files
4. Spatial (GIS) data formatted for submission to FEMA MIP
5. Flood profiles and annotated FIRMs
6. Certified topographic work map
7. Responses to FEMA's comments

Due to the uncertainty regarding the extent of FEMA comments, Wood Rodgers has included a 15% budget contingency in the budget provided below to address FEMA's anticipated comments, to be used as needed and approved by the City.

Wood Rodgers is requesting additional funds to replenish the budget used for out-of-scope tasks, provide as-needed hydrologic and hydraulic services, conduct extreme precipitation analysis, develop catch basin inlet inventory and analysis, and provide a FEMA LOMR application and submission as detailed in Table 2.

Table 2 - Budget Request, 8792007				
Move from Task	Existing Budget	Budget used for Out-of-Scope tasks	Additional Budget Request	Revised Budget
3.1- Geodatabase Refine/ Reconcile	\$39,780	\$(15,000)	\$15,000	\$54,780
3.6- Inspection & Inventory	\$596,790	\$(100,000)	\$100,000	\$696,790
5.1- Delineate Watershed	\$177,230	\$(35,000)	\$35,000	\$212,230
5.2- Develop Hydraulic 1d/2D Model	\$270,480	\$(50,000)	\$50,000	\$320,480
12.0 - Extreme Precipitation (new task; See Exhibit A)			\$53,040	\$53,040
13.0 - Catch Basin Inlet Inventory & Analysis (new task; See Exhibit A)			\$454,090	\$454,090
14.0 - As-Needed Hydrologic and Hydraulic Services (new task)			\$150,000	\$150,000
15.0 – Arroyo Viejo LOMR (new task; See Exhibit A)			\$114,440	\$114,440
Total	\$1,084,280	\$(200,000)	\$971,570	\$2,055,850

The estimated fees are based on 2025 rates (see Exhibit B) to be utilized for the scope of work and budgets identified above. Wood Rodgers proposes to perform the above-identified scope of work on a T&M basis for a total estimated fee of **\$971,570 T&M**. This amendment will increase the contract total from \$3,099,882 to \$4,071,452.

To authorize this work, please return a signed copy of this proposal.

Sincerely,



Dan Matthies
Vice President, Wood Rodgers, Inc.

IN AGREEMENT WITH THE ABOVE TERMS:

By: _____

Print Name: _____

				Wood Rodgers, Inc.									
				Prin Eng II	Prin Eng I	Senior Engineer II	Senior GIS I	Engineer II	GIS I	Project Coord.	Contingency	Subtotal	Total
Quantity	Unit			\$ 360	\$ 315	\$295	\$ 285	\$ 240	\$230	\$190			
Task 12 - Extreme Precipitation					36	60		100				\$53,040	\$53,040
Task 13 - Catch Basin Inlet Inventory & Analysis													
Task 13.1	Project Management				24		40					\$18,960	\$18,960
Task 13.2	Data Setup					4	4		8			\$4,160	\$4,160
Task 13.3	Inlet Inventory						100	100	20			\$57,100	\$57,100
Task 13.4	Inlet Categorization and Dimensions						600	600	125			\$343,750	\$343,750
Task 13.5	Field Inspection Coordination						4		16			\$4,820	\$4,820
Task 13.6	Rehabilitation and Replacement Program				20	40		30				\$25,300	\$25,300
Subtotal					44	44	748	730	169			\$454,090	\$454,090
Task 15 - Arroyo Viejo LOMR													
					16	80	40	200	50		\$14,900	\$114,440	\$114,440
Total				-	96	184	788	1,030	219	-	\$14,900	\$621,570	\$621,570

EXHIBIT "B"



WOOD RODGERS

OAKLAND FEE SCHEDULE

CLASSIFICATION	STANDARD RATE
Principal Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$360
Principal Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$315
Senior Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$295
Senior Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$285
Project Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$265
Project Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$250
Engineer/Geologist/Surveyor/Planner/GIS/LA* II	\$240
Engineer/Geologist/Surveyor/Planner/GIS/LA* I	\$230
Assistant Engineer/Geologist/Surveyor/Planner/GIS/LA*	\$200
Designer	\$105
Senior CAD Technician/Graphics Designer II	\$220
Senior CAD Technician/Graphics Designer I	\$205
CAD Technician/Graphics Designer	\$180
Project Coordinator	\$190
Administrative Assistant	\$170
Construction Manager	\$360
1 Person Survey Crew	\$260
2 Person Survey Crew	\$370
3 Person Survey Crew	\$470
Consultants, Outside Services, Materials & Direct Charges	Cost Plus 10%
Overtime Work, Expert Witness Testimony and Preparation	Rate Plus 50%

*LA = Landscape Architect

Blueprints, reproductions, and outside graphic services will be charged at vendor invoice. Auto mileage will be charged at the IRS standard rate, currently 67 cents per mile.

Fee Schedule subject to change January 1, 2026.